Topic: Impact of Denoising Retinal OCT images in Classification

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Abstract:
In this paper the main motive is to coming up with the impact of denoising Optical Coherence Tomography (OCT) Retinal images via showing accuracy rate difference between classification with noisy images and denoised images. Retinal OCT images are always noisy. Even in better cases, it's hard to find a single image without any noise. Image classification is used for classify among different types of that same category. Block Matching 3D (BM3D) is the denoising algorithm which will be used for preparing denoised dataset with the help of Sk-image (scikit-image) and OpenCV. For classification, Convolutional Neural Networks (CNN), specifically Inception V3 network is used on the both data sets (Noisy Images Data set and Denoised Image Data set) with Python and the Keras deep learning library. In data sets, they are prepared with Drusen and Normal Images.
Applying classification models over those data sets, a clear concept will come out as the impact of denoising retinal OCT images in classification.

Keywords: Optical Coherence Tomography (OCT), Block Matching 3D (BM3D), Scikit-image, OpenCV, Convolutional Neural Networks (CNN), Inception V3, Keras, Python, Drusen